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Is the Cold Bath Dangerous?

By M. D. See page 210.

HEALTH

A WEEKLY JOURNAL OF

DOMESTIC AND SANITARY SCIENCE.

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EDITED BY DR. ANDREW WILSON, F.R.S.E. &c.

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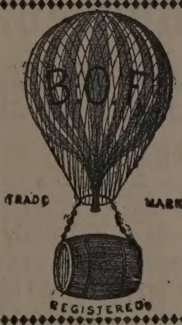

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◆ HEALTH ◆

EDITED BY

DR. ANDREW WILSON, F.R.S.E., &c.

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Notes by the Way

BY THE EDITOR.

Health is the foundation of all our physical happiness."—*Herder.*

I OBSERVE that in an article entitled "Race and Insanity," published in the *American Journal of Insanity*, Drs. Bannister and Hektoen, physicians of the Illinois Eastern Hospital for the Insane, express the opinion that there is little doubt but that insanity is influenced by race. From the statistics of three institutions in which insane persons are treated they draw the following conclusions: 1. That in the white race the depressive types of mental disease are most frequent in the Germanic and Scandinavian peoples, and least so in the Celts: the reverse of this appears to be the case as to the exalted or maniacal types. 2. That general paralysis is not a disorder to which any race is immune, but one that depends upon causes independent of racial or national peculiarities. 3. That the well-known fact that insanity is much more common amongst the foreign-born than amongst natives in this country, is not to any great extent explainable by the shipment of the defective classes of Europe to America.

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THE "cranks" and epileptics and other nervous individuals do not appear to be represented, in due proportion even, amongst the foreigners in our asylums. The cause of the excess of foreign-born insane in America is, it seems probable, to be looked for mainly in the fact that, supposing the immigration to include only its proportion of persons below the average of mental strength and flexibility, the change of scene and associations, the difficulties of beginning life among them, disappointments, home-sickness, and all the other accidents and trials that befall the new-comers, together contribute to break down mentally a vast number who under other circumstances would have escaped, and largely contribute to the mass of American insanity.

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IN the Cambridge (Mass.) Hospital there is an arrangement for the ventilation of the beds not generally known. It is so effective that on this side of the Atlantic we may gain a useful hint from the American practice. Beneath each bed is a ventilating tube of about eight inches in diameter, fifty square inches area, leading directly through the floor to a foul air tank, beneath which it communicates with the main ventilating chimney. About 2,000 cubic feet of air an hour is thus drawn from beneath each bed. This ventilating tube is connected with the bed above by a 4-inch pipe of tinned plate, with a proper cover and joints, which passes around the side or foot of the bed, and into it beneath the clothing.

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THIS pipe is lengthened with one of the same size of pasteboard or other substance, a non-conductor of heat, reaching to any part of the bed. By this simple means foul air is removed as fast as formed, the bed kept free from odour, and the patient's body is no longer surrounded with contaminating gases. As the air presses inward through the porous bed clothing, none escapes into the ward. Further, a 2-inch flexible pipe is adjusted to that just described, and slipped over the hollow handle of the bed pan when in use, carrying off odour from that also.

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IN the same hospital similar means connect the beds in the private wards with the chimney of an ordinary fireplace, up which the pipe reaches about four feet, to insure a good draught with a moderate fire; the part in the chimney is of black iron. The advantages of such an arrangement in cases of sloughs, foul ulcers, cancers, and in fevers with frequent fæcal dejections, are obvious. It may be supposed that the passage of air through the bed would cool it too much. Practically it does not. Probably the quantity of air passing is about the same as in beds ordinarily at the same temperature of the room, but in a different direction.

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In a pamphlet on the Causation of Pneumonia (or lung-inflammation), by Dr. Henry B. Baker, may be found a thorough consideration of the subject. He seems to prove that pneumonia is controlled by temperature and humidity of the air. The pneumonia increases after the atmosphere is cold and dry, and decreases after the air is warm and moist. One would suppose that such climatic causes could not be controlled, but Dr. Baker points out how he thinks the disease may be greatly lessened by controlling the temperature and especially by moistening all air which requires to be warmed, in all buildings, public and private. During the time of greatest danger from the disease (cold weather) most people spend half their time in buildings where such conditions can be controlled, and Dr. Baker claims that it is the long-continued exposure that causes this disease; so that, if the indoor conditions are properly cared for, this disease will be greatly lessened.

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A correspondent asks "What is Absinthe?" I reply, it is the favourite intoxicant of the French, and is almost always manufactured with alcohols of commerce, ill-rectified, rendered green by the addition of the sulphate of copper, and saturated with resin, so as to give it the beautiful greenish-white precipitate produced by pouring water on it, and which drinkers so much admire. "Vermouth," another favourite liquor of Parisians, is adulterated with hydrochloric or sulphuric acid, in order to give it a pungent taste.

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"Kirsch" is extracted from the leaves of the cherry laurel, and contains as much as twenty-two centigrams prussic acid per litre, instead of five or six centigrams. Rum is manufactured always with alcohol distilled from beetroot, to which is added ether and formic acid. The "bouquets" of brandies are manufactured by the action of sulphuric acid on castor oil. The colouring matters employed are extracted from logwood, the elder, sorrel, fuchsine, and coal. Such is the trash which is daily consumed by the Parisians.

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Dr. Decaisne, speaking of smoker's "vertigo" or giddiness says that out of sixty-three patients, forty-nine were between fifty and sixty-six years of age. More than half of them suffered, in addition, from digestive troubles, with constipation alternating with diarrhœa, insomnia, palpitations, &c. In a third of the number there was marked intermittence of the pulse, and inflammation of the throat; while others suffered from aphthæ, amblyopia, &c. But thirty-seven were persons who smoked habitually on an empty stomach; and these suffered from vertigo, principally in the morning. The vertigo generally coincided with suppression of perspiration and diminished excretion of urine. The treatment consisted mainly in regulating or suppressing the cause, but thirty-three out of thirty-seven patients ceased to suffer on merely refraining from smoking on an empty stomach.

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It is reported that many lepers are leaving the Sandwich Islands, as soon as the disease manifests itself, in order to prevent being banished to the island of Molokai. Mr. Putnam, consul-general at Honolulu, believes the number of these emigrants to be considerable, and many, if not most, of them flee to the United States. If this is so, the American health-authorities should be on their guard against a leper-invasion.

Original Essays

"Life is not to live, but to be well."—*Martial.*

IS THE COLD BATH DANGEROUS?

By M.D.

Recently there came under my notice a magazine article entitled "The Cold Bath and its Danger," by Dr. T. W. Wake Smart, formerly physician to the Salisbury Infirmary. This article was in itself suggestive enough, but its title was calculated to excite what I regard as needless alarm regarding a very admirable and, certainly, a very common health-practice. The opinions of Dr. Smart have been quoted in newspapers, and have been commented upon in various quarters. The question, "Is the Cold Bath Dangerous?" is, therefore, one which, in the interests of that large and growing section of the public—the "morning tubbers"—it is desirable should be fully ventilated.

The cold bath is emphatically a tonic measure rather than a cleansing one. For the freeing of the skin from engrained particles and from its secretions, we require the action of hot water. The operation of the Turkish Bath proceeds on the principles of inducing thorough action of the skin, of ridding the sweat-glands of any accumulation of waste-material, of denuding the "scarf-skin" of its worn out cells and layers, and of starting the epidermis and the under-skin alike refreshed on their physiological journey. The Turkish Bath depends for its success on the skilful manipulation of heated water and heated vapour, and on the same principle the "Saturday night hot bath" of the days of youth is relied upon as a homely and familiar measure for insuring cleanliness. We may, therefore, at the outset, draw a clear distinction between hot and cold water in respect of cleansing properties. It is true that both baths, hot and cold, may, and do, exert a relatively similar action on the body. The cold bath, speaking generally, diminishes the bodily heat, while the warm bath increases it. When, however, the physiology of each bath is more fully traced out, we find that the warm bath simply increases the heat of the body by warming its surface; while the cold bath, by its causing increased respiration (or breathing) favours an increase of internal heat, and thus compensates for the surface-chill.

The more specific action of the cold bath on the body is readily enough understood. The natural heat of the human frame may be set down at 98·5 degs. Fahrenheit, and a cold bath may be regarded as varying from any degree to begin with up to 85 degs. Fahr., at which stage the *tepid* bath begins. This last ranges to 95 degs. Fahr. Warm baths are defined as varying from 96 degs. to 104 degs. Fahr.; and hot baths from 102 degs. to 110 degs. Fahr. As a writer remarks, however, it is important to note the difference between water and air of the same temperature, in respect of the effects produced on the body. Air at 77 degs. Fahr. is warm, or, at least, by no means chilly; while water of this temperature "may be considered low enough to constitute a cold bath for most persons."

The first effect of cold water on the skin, applied as in the familiar morning sponge bath or "tub," is to produce a certain degree of nervous shock. The muscles are affected, and, in turn, an interesting *reflex nervous action*, as it is named, takes place. Thus the shock to the skin and muscles is carried by the nerves to the nerve-centres controlling the blood-vessels, and regulating

their contraction and expansion. The blood-vessels are made to undergo contraction, and, as in a fainting fit or after a fright (for the *rationale* is the same), the skin-surface of the bather in cold water becomes pale. The blood has been driven from the surface towards the internal organs, producing a temporary or physiological congestion. But in a few moments there is a reflux of the blood to the surface-parts. It returns charged with increased heat, and then is felt the agreeable "glow" with which the cold bath invests the healthy bather.

It becomes clear from this knowledge wherein the special danger of the cold bath lies. The rush of blood from the surface loads the internal organs for a measureable duration of time, and it is not only conceivable, but perfectly probable, that in a weakly subject, or in one unaccustomed to the shock of cold water and to its physiological effects, strain of the heart or blood-vessels might ensue. Again, reaction—the reflux of blood to the skin—may be delayed from various causes, such as from over-cold water, or from entering the bath when chilled, or from delay in the bath and absence of the healthful friction with the bath-towel. These are the real risks of the cold bath. They are, certainly, few in number; and if we make the common-sense provisos, firstly, that persons who are weakly or in ill health shall not bathe in cold water, and, secondly, that those healthy individuals who do bathe shall observe the plain laws which regulate the practice—just as other laws regulate the taking of food or of drugs—we may be said practically to have answered the question which heads this article.

Turning now to Dr. Smart's views and objections, we find that gentleman remarking on the cold bath as follows:

"It is an obvious fact that there are remedies and modes of treatment at one time of the greatest possible benefit, and at another productive of dangerous, if not fatal, consequences; the difference not so much owing to the remedies as to the conditions under which they are administered. This remark applies with much force to the habit of using the cold bath, and I am induced to notice the fact from feeling very strongly on the subject, owing to the occurrence of late of a fatal result in three cases, two of which may be remembered as having happened in the early part of this winter, and all of them attended by very similar circumstances and occurring about the same time. I allude to the deaths of Lord Wolverton and of the Hon. Mr. Maurice Portman, and that of an officer in the army. The two former excited a feeling almost of alarm and of very general sympathy; the last named was unknown perhaps beyond the circle of his family and friends, by whom he was greatly beloved. In all, the facts were the same, as follows:—Each of these gentlemen had risen from his bed to immerse himself immediately in his bath of cold water, as had been probably the daily habit, and hitherto with impunity; but now, what occurred? Down stairs the breakfast was waiting for their arrival; they did not come. Alarm was felt, and relatives or friends hurried upstairs; no answer was given; the door of the bath-room was forced open, when the appalling sight presented itself of these gentlemen lying on the floor (having evidently recently left the bath) in an unconscious state, and either dying or already dead from fatal syncope. These were men in the prime of life, accustomed to take active exercise, apparently in health, but known, alas! to have weakness of the heart and circulation, disregarded probably by themselves, though not by their medical advisers, and we see the result.

"Three such cases happening nearly at the same date and under such similar circumstances naturally appeal very forcibly to one's mind, and induce the inquiry as to whether the use of the cold bath may not in many cases have a very dangerous tendency. There must always be a very strong shock to the system by rising from bed with a temperature of about 95°, and plunging immediately into a bath of cold water with a temperature perhaps but little above the freezing point; the effect of this sudden shock, or check, on the system must be to drive the blood from the skin to the internal organs, to oppress the circulation, to force the venous blood back on the heart, which, if weakened by structural changes, becomes suddenly overpowered and unable to overcome the increased pressure on its mechanism, and so a fatal termination rapidly ensues."

Even a cursory perusal of Dr. Smart's words serve to show that, assuming the correctness of his details, he is dealing, not with the suitability and safety of the cold bath for ordinary healthy persons, but with the inadvisability of a delicate or diseased frame being subjected to the shock the cold bath entails. Needless to say, these are two very different issues. His fatal cases "were known, alas! to have weakness of the heart and circulation." Is it fair for a moment, then, to raise even a suspicion against the "morning tub" because persons who ought not to have indulged in it unfortunately paid with their lives the penalty of their rashness? I apprehend there is no argument whatever involved in the emphatic negative reply which must be given to this question.

To show that Dr. Smart is really arguing on the same mistaken lines as regards the cold bath and health, I quote again from his article. He says that "There can be no doubt that a strong and healthy man may take this plunge, not only with impunity, but even feel all the better for it; yet there are many apparently as strong and healthy as he who, in reality, have an organic weakness of the heart, which to them is a source of the greatest danger. The man in health leaves his bath feeling light and refreshed, with a glow on his skin, and in this state he descends to join the breakfast party below in buoyant health and spirits, and ready for any active exercise or duty he may be called on to engage in. Another man not in health, but only apparently so, leaves his bedroom pale, chilly, and shivering, has but little appetite for his breakfast, and perhaps may require some kind of stimulant to put his circulation into regular action. In the former case the cold bath has proved an excellent and invigorating stimulus, in the latter its effects are the very reverse; it proves itself a powerful depressant, and, if persevered in, will assuredly lead to mischief, if not to death itself."

These words indicate exactly the common-sense view of the whole matter. No one for a moment would countenance the "pale, chilly, and shivering" mortal plunging into cold water. The first and most vital law of cold bathing as regards health, that there shall be no chill or depression in the bather, is violated in the case Dr. Smart quotes above. He is therefore only repeating a caution to an invalid: he is not giving either advice or warning to a healthy man. Dr. Smart calls the cold bath, at the close of his article, "a salutary hygienic practice," and he warns us again against its "injudicious observance." So far good, but then it is only injudicious for unhealthy persons, on the same principle that for a man with heart disease to run and bustle to catch trains or omnibuses, is a sure tempting of his physical powers towards fatal strain.

To sum up. In reply to the question, "Is the cold bath dangerous?" I answer, "Yes," for persons with

heart disease or lung disease, to those with deficient circulatory powers, and to those who, after trial thereof, fail to experience the reaction and after-glow of the healthy bather.

I answer, "No," for persons in good health, who experience full reaction, and who are careful to avoid excessive coldness of water and chill through remaining too long in the bath. Add to this the advice to avoid wetting the head in the morning tub, and to begin the practice in summer, thus gradually inuring the body to the winter-temperature, and one may have indicated all the needful points for healthy bathing. For persons who plunge into the sea or river for a morning bath, of course the same rules apply, with increased cautions against chill and against prolonging the immersion.

IS MODERATE DRINKING INJURIOUS?

By Dr. Andrew Wilson.

FOURTH PAPER.

An interesting point in connection with alcohol as a cause of disease of the circulatory system, referred to in our last article, is raised by Dr. Harley when he says that extensive degenerations of the arterial coats not unfrequently occur in otherwise apparently healthy men, who live well and take plenty of exercise, in whom there is either no heart disease at all, or, if there be, the organic change is so slight as not to be detectable by either stethoscope or percussion. "In all such cases," he adds, "the patients are in general full-blooded. The withdrawal of blood from them, either by cupping or venesection, is markedly beneficial from its relieving the blood tension in the diseased vessels. In fact, it is my opinion that the withdrawal of blood, not once, but even repeatedly, in the full-blooded, is exceedingly useful, even in cases of hypertrophy, dilatation, and valvular disease, from its equally relieving the tension in the over-distended and stretched auricles and ventricles" (of the heart).

Dr. Harley proceeds to quote cases in support of the above contention. Even small quantities of alcohol, in such subjects as are above described, keeps up the tension or strain on the arteries, and thus injuriously affects the body at large. Our author's caution is undoubtedly a very important one, and one to be laid to heart by those who are in any way affected as he describes. He holds that it is "next to impossible to overrate the desirability of impressing patients labouring under heart disease, as well as atheromatous degenerations of the blood-vessels, with the absolute necessity of being extremely temperate in the use of alcoholic stimulants, if they wish either to live long or to ameliorate the disease of the circulatory system under which they labour. For alcohol taken in the form of spirits—brandy, whisky, gin or rum,—even in teaspoonful doses, by increasing the heart's action has quite as pernicious an effect on the organic structural disease, be its form what it may, as belladonna itself. And I fancy all who have much experience with cardiac diseases know well the intrinsic significance of this remark. In the early stages of organic disease of the heart or blood-vessels judicious regimen is quite as essential to the well-being of the patient as wise treatment; for if the case be skilfully handled, it is not only possible for death to be long averted, but even the effects of the organic changes reduced, and like the cracked jug which goes often to the well, the life of the patient may be prolonged for years; while, on the other hand, if the true nature of the case fail to be early recognized, and the patient goes on living as if there were nothing the matter with him, the disease rapidly advances, and ere long the time arrives when it is utterly beyond human power to avert a more or less suddenly fatal ending." These are words which well deserve, I repeat, to be observed to the letter by patients whose physicians have laid a too feeble embargo upon the use of alcoholics.

It is characteristic of Dr. Harley that he is eminently judicious in his scientific survey of the field of "moderate drinking" as a subject for medical criticism. He tells us that the general laws he has laid down are not, like those of the Medes and Persians, unalterable. No law of therapeutics is so. My contention as to the relativity of alcohol to individual habits, health, work, &c., is aptly illustrated by what our author himself says regarding the influence of alcohol even in the forms of circulatory disease he has been describing. In one case alcohol must be absolutely forbidden if the welfare of the patient is to be concerned. In another, stimulants may be "a useful adjunct to other treatment." The golden rule in all doubtful cases is, that a medical opinion alone can and should decide the matter.

An example of the medical use of alcohol is found in the illustration given by Dr. Harley. "From the fact of alcohol being a powerful anti-flatulent," he says, "there is scarcely a single case of organic disease of the heart in which it may not sometimes be administered in small quantities at a time with marked advantage. For it is an undoubted fact, though, I fear, far from being a generally appreciated one, that a stomach distended with wind is a most dangerous complication in heart disease. Mere gastric flatulence is sometimes, indeed, the immediate cause of sudden death, from the wind-distended stomach pressing up the diaphragm against the apex of the heart, and so impeding its movements, in its weakened state, as actually to arrest them altogether. Most of the cases where patients labouring under heart disease are found dead in bed, after having retired to rest apparently in their usual state of health soon after partaking of a hearty meal, are, I believe, due to the effects of pressure upon the heart—probably the result of the combined action of a distended stomach and falling asleep on their left sides.

"It is not easy," he continues, "to get statistics on this point, for people are generally in such a state of excitement when they unexpectedly find a relative lying dead in bed, that they pay no attention to the position in which he is, and during their attempts to resuscitate him, before the arrival of the doctor, it has been altered. But, as far as I have been able to ascertain, the body has most often been found on the left side or back. From this I have become so strongly impressed with the danger attending upon sleeping on the left side, coupled with a wind-distended stomach (the discomfort arising from which may not be sufficient to awaken one from his sleep), that to every patient labouring under heart disease I give emphatic warning never to allow themselves to fall asleep, if they can possibly help it, on their left sides; and never, at any time, to permit their stomachs to become distended with wind, but to get rid of it by eructating, either with or without the aid of an anti-flatulent, and this more especially before going to bed; and, should they have occasion to turn on to their left sides during the night, to always take the precaution of first emptying the stomach of its wind by belching, which a little practice will soon enable them readily to do. I will even go a step further, and say that a wind-distended stomach has brought about the sudden death

of patients even while they were not only awake, but up and moving about."

The case Dr. Harley quotes was that of a woman who, after partaking of a hearty meal, gasped for breath, and shortly thereafter expired. On examination of the body, one of the heart's main orifices was found in a state of marked contraction, showing disease of this part; but this ailment had not of itself proved fatal, save through the stomach distension which had followed upon breakfast. Here, Dr. Harley says that "Just as it is the last straw that breaks the camel's back, I think that there can be little doubt that in the above case it was solely due to the trifling additional distension of this woman's stomach by gas, superadded to the hearty meal, and the already diminished abdominal cavity on account of the pregnancy, that the mere wind proved sufficient to totally arrest, by its pressure on the diaphragm, the pulsations of her diseased heart, and thus bring about sudden death. If this view of the case, which subsequent years of physiological, as well as pathological, experience has led me to adopt, be correct, I think it is well within the range of possibility that had the woman been able to get rid of the wind by belching, either with or without the aid of an anti-flatulent, she might have outlived the temporary attack of cardiac dyspnœa (or heart-breathlessness), and survived for some time to come, seeing that up till that fatal moment she had been able to do the work of a hospital servant without any apparent discomfort." In such a case, alcohol as an anti-flatulent might, and probably would, have served to avert a fatal issue.

In summing up the relations of alcohol to the heart's work and to its diseases, Dr. Harley says that we may hold it as proved "1. That alcohol, when indulged in, even well within the limits of intemperance, has a most prejudicial effect on heart disease. 2. That sudden spurts of muscular exertion act most deleteriously on all forms of organic cardiac affections. 3. That mental excitement is a cause of rupture of atheromatous (or diseased) blood-vessels. 4. That a mere extra distension of a stomach by wind may suffice to fatally arrest a diseased heart's action. The knowledge of these facts has, for some years past, led me to make it an invariable rule to impress upon all patients labouring under diseases of the circulatory system who desire to minimize the effects of their complaints and ward off, as long as is possible, the inevitably fatal termination, to pay strict attention to what I call the following three golden rules: (1) Take exercise, without fatigue; (2) nutrition, without stimulation; and (3) amusement, without excitement."

The final instalment of Dr. Harley's views on the effects of moderate drinking deals with these effects as evinced upon the brain and intellectual faculties. In respect of its social importance, this part of the topic is second to none of the other departments of the inquiry. Once again our author appeals to statistics of the relative mortality from nervous diseases in those exposed to temptations of "nipping," and in those not so exposed. The following is the table quoted:—

Men exposed to the temptations of nipping.	Diseases of the nervous system.
Commercial travellers	139
Brewers	144
Innkeepers, publicans, wine, spirit, and beer dealers	200
Men not exposed to the temptations of nipping.	**Diseases of the nervous system.**
Gardeners and nurserymen	63
Farmers and graziers	81
Printers	90
Drapers and warehousemen	109

The figures speak with great force as a plain statement of the effects upon the nervous system of *immoderate* drinking; for, as I have previously shown, the classes above alluded to as exposed to the temptations of "nipping" are certainly to be ranked as entirely outside and beyond the category of "moderate" persons, strictly so called. Our author, speaking of diseases of the nervous system being so much more common among drapers and warehousemen than among the equally in-door occupation of printers, says that "the only tentative explanation which I dare venture to adduce from this fact being that as it is worry—little, fidgeting, mental worries—that conduce, more than mental work (not excessive), to shatter the nerves, the high percentage of diseases of the nervous system met with among drapers and warehousemen is possibly due to their being more liable to be mentally harassed in the course of their daily avocations than printers, who are, as a rule, not subjected to anything like a similar class of petty annoyances during their work, no matter how arduous it may be. That, at least, is the explanation of the great disproportion between these two trades of nerve affections that I incline to accept until a better is forthcoming."

The injurious effect of even slight or continued excess of alcohol upon the nervous system is explicable on the ground that by disordering the liver's functions, the bile accumulating in the system poisons brain and nerves; while the heart's action being accelerated, the blood-supply of the nervous system is stimulated, and functional irritability thereby developed.

"LIKE BEGETS LIKE."

By Dr. E. J. Dungate.

FOURTEENTH PAPER.

A tendency to hallucinations may be transmitted. Mr. Sedgwick remarks that the celebrated author of "Paul and Virginia" often believed himself to be surrounded by enemies and evil spirits; his grandson suffered from the same delusion. Moreau, in "La Psychologie Morbide," refers to two monomaniac sisters, who thought that Charles X. had fallen in love with them; and in *L'Union Médicale* he refers to two sisters, who both believed that they had intercourse with spirits. He also mentions the case of a man aged forty-five, who had been subject to epileptic attacks since the age of thirty-seven. Three years before the first attack, being exposed to a hot sun, and the head uncovered, he heard a voice say "Save thyself," and he felt as if someone had given him a violent blow on the stomach; he also saw a man turning a machine. These hallucinations frequently returned; but he regarded them in their just light. Insanity was not developed till a year after the first attack of epilepsy. Then he had hallucinations which induced him to commit insane acts. The mother of the patient was subject to *visions;* his father died of paralysis; a maternal uncle, cousin, and grandfather were insane.

The following case, related by Esquirol and quoted by Sir Alex. Morison, shows the way in which hallucinations may originate. "A lady, of a feeble physical constitution, but possessed of great fortitude and courage, had several times rescued her husband from the hands of the Revolutionists in France. On one occasion a party of them had tied him to a tree, and were standing at a little distance, about to shoot him. The lady threw herself between her husband and those who were about to kill him, calling out, 'You must kill me before you

can reach him.' Her heroic conduct on this occasion saved her husband. Some months afterwards, she was delivered of a daughter. The child had a feeble, nervous constitution, and was subject to panics of fear from her infancy; this, however, did not prevent her marrying, and she bore several children, which, together with domestic chagrin, so affected her health that she became maniacal. During her disorder she was incessantly haunted by visions of arms, assassins, and bloodshed, and her physiognomy was expressive of the greatest terror. She was always ready to commit acts of frenzy and violence in order to drive away murderers and assassins; from this state she never recovered."

There are examples of hereditary predisposition to theft, as well as to drunkenness, murder, and suicide. Dr. Julius Steinau mentions an example of hereditary kleptomania. An old man had such a propensity to steal that he was popularly spoken of as "the thief." His son and grandson were incorrigible thieves, and in the case of his grandson the habit was manifested when he was but three years old. In the "Cyclopædia of Practical Medicine" there occurs the following: "The writer of this article has lately seen a lunatic, confined in an asylum, who would only eat when he had stolen food, and his keeper made it a constant practice to put into some corner within his reach various articles destined for his sustenance, in order that he might discover and take them furtively. Many instances are upon record of individuals noted for a propensity to steal, without the desire of subsequent possession, though in other respects of sound mind, or, at least, not generally looked upon as deranged." Dr. Prichard mentions a boy who was "an incorrigible thief, and addicted to falsehood and deception in every way, and apparently devoid of all perception of right or wrong. The mother of this boy was addicted to mania, a raving madness." Prosper Lucas mentions a woman who, whenever she was pregnant, was afflicted with kleptomania; all her children were afflicted with the same propensity.

Burton insists that *melancholy* is hereditary. Dr. Johnson used to say that he inherited "a vile melancholy" from his father, and this made him "mad all his life, or, at least, not sober." Boswell assures us that when he was giving to the world the best proofs of a vigorous intellect, he thought that he was insane, or in a condition bordering upon insanity. "For many years before Johnson's death," says Murphy, "so terrible was the prospect of final dissolution that when he was not disposed to enter into the conversation which was going forward, he sat in his chair repeating the well-known line of Shakespeare:—

"To die, and go we know not where."

In "Pathology and Physiology of the Mind," by Dr. Maudsley, an interesting case of a young girl is mentioned. This poor girl was only fourteen years of age, and was lively and intelligent. She would suddenly spring up in a paroxysm of excitement, and cry out, "Mother, I'm dying!" and then pray frantically. This condition would last for some hours, and leave her cold, and trembling like a leaf. Before these periods of excitement began she was troubled with occasional attacks of depression and weeping; she had always suffered more or less with pains in the head, particularly in the left temple. Her brother had died after being similarly affected, and her mother had suffered for months from speechless melancholia. Almost the whole of the family had been carried off by consumption.

With regard to *idiocy*, Prosper Lucas mentions that an idiot mother gave birth to a child who was also an idiot; and, being left from infancy amongst cows in the stable, he acquired the habit of ruminating just as they do. Haller relates that almost a century before he wrote, idiocy had manifested itself in two noble families, and it still appeared in various members of the fourth and fifth generations. In Dr. S. G. Howe's work, "On the Causes of Idiocy," he says: "The statistics of seventeen families, the heads of which, being blood relations, intermarried, tells a fearful tale. Most of the parents were intemperate or scrofulous; some both the one and the other. Of course, there were other causes to increase chances of infirm offspring besides that of intermarriage. There were born unto them *ninety-five* children, of whom *forty-four* were idiots, twelve others were scrofulous and puny, one was deaf, and one was a dwarf! In some cases all the children were either idiotic or very scrofulous and puny. In one family of eight children five were idiotic.

Feuchtersleben, when speaking of insanity, says: "Hereditary descent is unquestionably the most frequent cause; more than half the cases that occur are occasioned or favoured by it. Marriages in the same family contribute, therefore, to the propagation of this germ. It often takes place uninterruptedly from the father to the son, from the son to the grandson: often with an interruption from the grandfather to the grandson; often irregularly to the nephews, &c. The danger is less when the procreator does not become insane till after the procreation, and therefore had previously only a predisposition."

It is a matter of common observation that wherever intermarriage is common insanity is proportionately common. In the Faroe Islands, where intermarriage is the rule, there is an hereditary predisposition to insanity, and about ten per cent. of the inhabitants are insane. All cattle breeders are aware that hereditary taints are intensified by breeding *in-and-in*. The only way to prevent the advances of such terrible tendencies among human beings is to appeal to their general intelligence. Legislation can do very little. All that it can do is to prevent insane people from entering into matrimonial alliances and perpetuating their mania. But what of all those who are on the borderland of insanity, and who may transmit their potential insanity in an active form? Falernius said, "It were happy for mankind if only such persons as are sound of body and mind should be suffered to marry." Under such circumstances we should have a commonwealth of health; but this is probably as far away in the future as the millennium of happiness.

It is quite clear that Juvenal was right when he said that one must pray for a healthy mind in a healthy body. What nobler sight is there in all nature than a healthy man, erect in form, with an elastic step,

"Lord of the lion heart and eagle eye"?

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Personal Health

"Be timely wise;
With health all taste of pleasure flies."—*Gay.*

A NEW SLEEP-PRODUCER.

RECENTLY we gave a brief *résumé* of the properties of antipyrin, a wonderfully active agent for the relief of rheumatism, pain, and fever. A short time since complete accounts were given of a new sweetening agent which is neither a food nor poison, and called saccharin, a product of inestimable benefit in diabetes. Within a couple of years or so a new and exceptionally useful medicine, strophanthus, the African arrow poison, has been introduced for the cure of diseases of the heart. Cocaine is a drug which, applied to a part, suspends the sensibility, and allows an operation to be painlessly performed. Many other new and highly valuable drugs might be mentioned, but the one most recent, and, at the same time, best adapted to a class of ailments from which, alas, only too many suffer, is *sulphonal*, a new hypnotic, or sleep-producer.

Sulphonal is made from "sulphur alcohol" and acetone, a product of the distillation of an acetate. It is tasteless, odourless, and harmless. It does not derange the stomach or interfere in any way with digestion. Neither does it affect the heart, respiration, temperature, or pulse. It simply throws the mantle of a peaceful, gentle sleep over the victim of a ceaseless insomnia. In about an hour after a moderate dose has been taken, the recipient falls into a sleep lasting from five to seven hours. From this long rest he awakes usually refreshed and free from any unpleasant effects. Sulphonal, it is said, has been given for weeks without causing any untoward effects whatever. One physician gave the drug in some three hundred cases with uniform benefit. Another administered it with satisfaction in one hundred and twenty cases. It is infinitely pleasanter to take than paraldehyde, is safer than chloral and potassium bromide, and is never contraindicated, as opium often is. All these drugs exert a more or less deleterious action upon the stomach, which is not the case with sulphonal.

Our contemporary the *Chemist and Druggist* observes in its last issue that the "sparing solubility of sulphonal is one of the chief difficulties which have to be dealt with in dispensing the remedy. It is easily powdered, but the resulting powder mixes badly with water. Were there not this objection, the best form of dispensing sulphonal would be as powder; for, the dose being comparatively large, *pills are out of the question.*" This, we venture to note, is no hindrance to its use, for the *tabloids* in which this and all the new as well as old drugs are supplied are perfect preparations in their way. They are convenient, accurate, and easy to take. As some impure imitations may be exploited, it may be well to add that impure sulphonal is bitter, thus distinguishing it from the pure, which is tasteless.

To keep a man awake is said to have been a form of punishment imposed by the Holy Inquisition; thus the mind was switched into delirium, and the victim stripped of the choicest of all gifts. Happy is science to place in the hands of mankind that which will dispel delirium, and call down the warm refreshing sleep of life and health. When, in heart-failure from disease, the lamp of life flickers like a dying candle, there is here, seemingly, a drug which will not depress that vital organ, but, bringing gentle sleep, will throw the mantle of restoration upon the nerves and their centres. When in disease the circulating poison has long kept the mind awake, a little sleep may prove physical redemption. In the strain and ceaseless worry which modern life and success make one of their conditions, sleep must be the central hope of salvation. Without sleep every mind must be a total wreck—a stranded, shattered bark. With it, all may be well. The dose of sulphonal is three or more five-grain "tabloids."

HEREDITARY LONGEVITY.

THE following account, taken from the *St. James's Gazette*, will interest our readers, in view of Dr. Dungate's papers on the same subject:—

An interesting and apparently a credible account has just appeared of a family of centenarians at Tarbes, in the Hautes-Pyrénées. Joseph Ritas, the last survivor of this truly wonderful line, died lately at the age of 118 years, his father having lived to the age of 111 years, and his brother to the age of 114. The mother and paternal uncle of Ritas are said to have been "equally long lived"—a somewhat vague expression from which nothing definite can be gathered. This is certainly a very exceptional record; but it stands out by reason of the extreme ages attained by individuals rather than for the fact of their concurrence in the same family. The latter incident happens oftener than is generally supposed. Some of the following examples have already been mentioned in the *St. James's Gazette*, but they are now first brought together as illustrating the influence of lineage in longevity.

Dr. Nathan Allen, of Lowell, Massachusetts, vouches for the truth of the history following: "In 1750, two brothers, Jonathan and Nehemiah Allen, went from Sudbury to Barre, when the latter place was a comparative wilderness. These two brothers, with wives from Lexington and Concord, settled in Barre as farmers. Jonathan Allen and his wife died at the ages of 92 and 87. They had seven children, one dying in infancy; but the other six died at these ages—67, 72, 77, 86, 87, and 88; an average, including the fractions of a year, of over 80. Nehemiah Allen and his wife died at the ages of 87 and 66. They had ten children—four sons and six daughters—dying at these ages: 78, 80, 80, 82, 84, 92, 92, 95, 96, and 96; making an average, with the fractions of a year, of over 88 years."

In January, 1885, Mrs. Kingdom was buried at Stroud, at the age of 100 years. She was one of seven children, two of whom were then living, and nearly 80 years old. The others died at the ages of 86, 96, 73, and 88 years. In June, 1885, Miss Joanna Hastings, a resident of Malvern, was in excellent health at the age of 103. She was the eldest child of the Reverend James Hastings, rector of Martley, Worcestershire, who died in 1856 at the age of 100 years and six months. On the 5th of April, 1886, Abraham Partridge, a native of Bristol, completed his hundredth year in a workhouse at Liverpool. His father, a Herefordshire man, died at the age of 105; his mother, a Scotchwomen, at the age of 102. A sister of Abraham's was also then living, and in her 102nd year.

In February, 1887, Mrs. Elizabeth Innes died at Lybster, Caithness-shire, aged 107 years. Her mother lived to be 99; and of four sisters, one died at 99, three were over 90; and a brother was 89 at the time of his death. In September, 1887, Mrs. Cant celebrated her 100th birthday at Pertenhall, near St. Neots. She had then living a brother 96 years of age, and a sister over 90. In October, 1887, three sisters were said to be

living in the States of Virginia, Iowa, and Dakota, at the several ages of 108, 112, and 97 years. In the same month, Andrew Craig, aged 85, and Mary Martin, aged 83, were married at Deerfield, Pennsylvania. The bride's mother died in Connecticut in 1880, aged 101 years. The bridegroom's father was 96 when he died, having been married twice after he was 75. Mr. Louis Lewis, a native of Rochester, who had emigrated to New Zealand, attained his 104th year on the 24th of September, 1887. His father lived to the age of 107 years.

In February last the Vienna correspondent of the *Times* reported the case of a Hungarian 84 years old, named Janos Meryessi, who attempted to commit suicide because he could no longer support his parents, aged 115 and 110 respectively. The Vienna journals have also lately chronicled the case (announced as "a positive fact") of a peasant who died at the age of 142, leaving a son aged 115 years and a grandson aged 85. Mrs. Flora Schlamm, still living in New York at the age of 102, is the descendant of a great-grandfather who died at the age of 120. Mrs. Mary Fraser died last March at Perth, aged 106 years. She had two uncles who attained the several ages of 112 and 110 years. In April last, Mrs. Mary Francis, in the enjoyment of good health, was residing at South Cornelly at the age of 108 years. Her mother died in her 111th year.

In his "Norges Naturligie Historie," the Danish historian Pontoppidan says that "in the Vale of Guldbrand, in Norway, and especially in the parish of Læssoe, there are persons of such an extreme age that, from a lassitude of longer life, they get themselves removed elsewhere to die the sooner." Numerous writers have followed Pontoppidan in exalting the health-giving power of particular localities, and its influence on the prolongation of human life. Posen, Silesia, and East Prussia are said to yield the largest number of aged people of the Teutonic race. In proportion to its population, Wales is thought to contain more inhabitants of great age than any other part of the United Kingdom; while Philadelphia is regarded as the chief abode of the extremely aged throughout the States. The parish of Presteign, in Hereford and Radnorshire, is also said to be noted for the longevity of its inhabitants. But, assuming this to be a fact, is it dependent upon climate or race? It seems not improbable that, in some secluded districts, certain original strains of patriarchal blood still contribute to the longevity of existing families.

ALCOHOL.

AMONG the curious side-issues of the current temperance discussion is the question whether alcohol is a natural product. This is, I believe, vigorously denied in some quarters. Alcohol, like bread, is manufactured artificially from a natural product. In each case fermentation, a natural process, is made use of. But while bread is known only as a product of manufacture, alcohol appears to be very widely distributed in nature, though in extremely minute quantities. Nor is this at all surprising. If grapes or apples, or their juice, be exposed to the air, fermentation sets in, and the sugar and other carbohydrates are changed to alcohol. The ferments which cause the change are afloat in the air all about, and might not unnaturally attach similar compounds in other vegetable substances. Prof. Muntz, of the National Agronomic Institute, in Paris, has, by refined chemical tests, discovered evidences of alcohol in cultivated soils, in rain water, in sea and river water, and in the atmosphere. He finds that vegetable moulds may contain considerable quantities, and it appears probable that the alcohol "originates in the soil, from the fermentation of the organic matters in it, and is thence diffused as vapour in the atmosphere."

Another side-issue of our temperance discussion is the so-called "Bible wine" theory, which maintains that the wine used in Palestine in the time of Christ was not alcoholic. I have been unable to find evidence that the composition of the juice of the grape, the laws of fermentation, or the practice in the making and using of wine, were different in that country at that time from those in other countries, or in that country at other times; and believe it safe to say that the theory that Bible wine was different from other wine, that it had not the alcohol which other wines contain, is without any basis to support it, in the opinion of the student of science.

Of the inexpressibly baneful effects of alcohol, that have made its excessive use one of the worst of the evils of our modern civilization, this is not the place to speak. But there is one matter in this connection about which, I trust, a word may not be out of place. It is that great as is the physical evil of alcohol, the moral evil is incomparably greater; the true temperance reform is moral reform; and that, like every other moral reform, it will be best furthered by the closest alliance with the truth.

The moral argument against alcohol seems to me invisible. Is it not certainly strong enough when the facts are adhered to, without the exaggerations into which earnest reformers, in the intensity of their convictions, are sometimes led?—*Prof. Atwater.*

GHASTLY EXPOSURES IN PUBLIC.—There are certain circumstances in which the practice of begging excites a natural feeling of charity in almost any passer-by who is not entirely self-absorbed. Especially is this the case when the cause of poverty is apparent in some deformity or mutilation of the person. We are then struck with a sense of inequality, a sense almost of injustice. It seems as if nature had unduly handicapped one runner in the race of life, and had thereby, as if by suggestion, cast him on the consideration of his fellows; and the more do we feel drawn to assist him on account of his evident infirmity. We seem hardly able to blame such a one if at times he begs for charity on the ground of his manifest unfitness to share the activity of others who are whole and sound. There is not necessarily any parade in the exhibition of his helplessness. We naturally look for the evidence of this in an injured limb or other member, or in the proof of its absence. At the same time there is something repulsive in the naked exhibition of some deformities, and decency seems to require that these should be covered. Not uncommonly they are, and we do not know that the generosity of the charitable is hindered by this fact. Probably it is rather encouraged than otherwise; for while the majority of persons are capable of enduring with equanimity the sight of such exposures, there are those who, whether by nature or training, are too sensitive even to look at them without marked repugnance. In the case of pregnant women, also, the avoidance of such ghastly objects is very advisable. Without professing to believe all the myths that are fabled about maternal impression, our readers will agree with us that the shock of such a sight incurred during pregnancy is not a desirable complication. The authorities, without using any harsh measures, might do away with these needless and disgusting exhibitions.—*Lancet.*

The Family Circle

"The child is father of the man."—*Wordsworth.*
"In bringing up a child, think of its old age."—*Joubert.*

THE IMITATIVE FACULTY OF INFANTS.

By Professor W. Preyer.

(Concluded.)

Toward the end of the first year of life the voluntary imitative movements, more numerous than before, are executed much more skillfully and more quickly. But when they require complex co-ordination they easily fail. When (at the beginning of the twelfth month) any one struck several times with a saltspoon or a tumbler so that it resounded, my child took the spoon, looked at it steadily, and then likewise tried to strike on the glass with it, but he could not make it ring. In such imitations, which are entirely new, and on that account make a deeper impression, as in the case of puffing *(Pusten)*, it would happen that they were repeated by the child in his dreams, without interruption of his sleep (twelfth month), a proof that the experiences of the day, however unimportant they appear to the adult, have stamped themselves firmly upon the impressionable brain of the child. But it takes always some seconds before a new or partly new movement, however simple, is imitated, when it is made for the child to imitate—*e.g.*, it was a habit of my child (in the fourteenth month) to move both arms symmetrically hither and thither, saying, "ay—ĕ, ay—ĕ" (altogether differently, much more persistently and rapidly, than when beckoning). If some one made this very swinging of the arms for the child to observe, with the same sound, there was always an interval of several seconds before the child could execute the movement in like fashion. The simplest mental processes of all, therefore, need much more time than they do later. But imitations of this kind are almost always performed more quickly when they are not sought, when the child-brain is not obliged first to get its bearings, but acts spontaneously. If I clear my throat, or cough purposely, without looking at the child, he often gives a little cough likewise in a comical manner. If I ask, "Did the child cough?" or if I ask him, "Can you cough?" he coughs, but generally copying less accurately (in the fourteenth and fifteenth months). The bow too tightly strained shoots beyond the mark.

Here, besides pure imitation, there is already understanding of the name of the imitated movement with the peculiar noise.

This important step in knowledge once taken, the movements imitated become more and more complicated, and are more and more connected with objects of daily experience. In the fifteenth month the child learns to blow out a candle. He puffs from six to ten times in vain, and grasps at the flame meantime, laughs when it is extinguished, and exerts himself, after it has been lighted, in blowing or breathing, with cheeks puffed out and lips protruded to an unnecessary degree, because he does not imitate *accurately*. For it can hardly be that a child that has never seen how a candle can be blown out would hit upon the notion of blowing it out. Understanding and experience are not yet sufficient to make this discovery.

I find, in general, that the movements made for imitation are the more easily imitated correctly the less complicated they are. When I opened and shut my hand alternately, merely for the purpose of amusing the child, he suddenly began to open and shut his right hand likewise in quite similar fashion. The resemblance of his movement to mine was extremely surprising in comparison with the awkward blowing out of the candle in the previous instance. It is occasioned by the greater simplicity. Yet, simple as the bending of the finger seems, it requires, nevertheless, so many harmonious impulses, nerve-excitements, and contractions of muscular fibres, that the imitation of simple movements even can hardly be understood without taking into account the element of heredity, since unusual movements, never performed, it may be, by ancestors—say, standing on the head—are never, under any circumstances, imitated correctly at the first attempt. The opening and shutting of the hand is just one of the movements by no means unusual, but often performed by ancestors. Still, it is to be noticed that at the beginning the imitation proceeded very slowly, although correctly. On the very next day it was much more rapid on the repetition of the attempt, and the child, surprised by the novelty of the experience, now observed attentively first my hand and then his own (fifteenth month).

Of the numerous more complicated movements of the succeeding period, the following, also, may be mentioned, in order to show the rapid progress in utilizing a new retinal image for the execution of an act corresponding to it: A large ring, which I slowly put on my head and took away again, was seized by the child, and put by him in the same way on his own head without fumbling (sixteenth month). But when it is a case of combination of a definite action of the muscles of the mouth with expiration of the breath, innumerable fruitless efforts at imitation are made before one of them succeeds, because, in this case, a part only of the working of the complicated muscular action can be perceived, while the rest must be found out by trial. Thus, the child could not, in spite of many attempts, get any tone out of a small hunting-horn. He put it to his mouth, and tried to imitate the tone with his own voice. Suddenly the right manner of blowing was hit upon accidentally, and from that time was never forgotten (eighteenth month).

After the child had seen how his mother combed her long, dark hair before a glass, he took a hand-mirror and a comb, and moved the comb around on his head, combing where there was no hair. So, too, he would now and then seize a brush and try to brush his head and his dress, but took special pleasure in brushing also all kinds of furniture. More than once he actually took a shawl, held it by a corner to his shoulder, and drew it behind him like a train, frequently turning around while doing this. He also put a collar round his neck; he tried to dry himself with a towel, but without success; whereas the washing of the hands with soap, without direction, was imitated, though not with much skill, yet tolerably well; none but very complicated imitative actions these, and all of them, in the case of my boy, belong to the third quarter of the second year—an exceptionally important period in mental genesis—the same is true of seizing, holding things before him, and (what was observed by Lindner in the sixth month) the imitation of reading aloud from a newspaper or pamphlet, the feeding of deer—holding out a single spear of grass to them—scraping the feet upon entering the house (as if the shoes were to be cleaned).

But how little real imitation and understanding of the act itself there was, even in this period of perfect external imitations, appears from the circumstance that a map is held, as a newspaper, "to be read aloud," before the face, and upside down. Now, too, the child

likes to take a pencil, puts the point in his mouth, and then makes all sorts of marks on a sheet of paper, as if he could draw.

Just as remarkable is the lively interest in everything that goes on in the neighbourhood of the child. In packing and unpacking, setting the table, lighting the fire, lifting and moving furniture, he tries to help. His imitative impulse seems here almost like ambition (twenty-third month).

Toward the end of the second year, various ceremonious movements, especially those of salutation, are also imitated. The child sees how an older boy takes off his hat in salutation; immediately, he takes off his own head-covering and puts it on again, like the other boy.

All these movements last enumerated are distinguished from the earlier ones by this, that they were executed or attempted by the boy unsolicited, without the least inducement or urging, entirely of his own motion.

They show, on the one hand, how powerful the imitative impulse has become (in the second year); on the other hand, how important this impulse must be for the further mental development. For, if the child at this age passes the greater part of his time in company inattentive to manners, or unrefined, then he will imitate all sorts of things injurious to him, and will easily acquire habits that hinder his further development. It is, therefore, of the greatest importance, even at this early period, to prevent the intercourse of children with strangers, and to avoid everything that might open wrong paths to the imitative impulse.

The imitative movements of the muscles of speech, the child's imitations of sounds, syllables, and words are treated of in detail in the third part of this work. The first answer of the infant to the language addressed to him by his relatives, which is said to be made, in individual cases, as early as the eighth and ninth weeks (according to Sully, 1882), is no attempt at imitation, but a directly reflexive movement, like screaming after a blow, &c. Singing has already been mentioned as one of the earliest imitated performances. It is true of these, as of all later imitations, that the first imitation of every new movement is voluntary on the part of the child, and, in case an involuntary imitation seems to occur, then either this has already been often repeated as such, or it is a movement often practised without imitation. The accuracy of the imitation depends little, however, upon the co-operation of a deliberative cerebral activity. On the contrary, children of inferior mental endowment among those born deaf sometimes possess (according to Gude) a purer and more distinct enunciation than those more gifted.

HOUSE MOTHS.

"HAVE you anything that is sure death to moths?" asked an anxious-looking housekeeper of a druggist the other day.

The druggist smiled, looked as though he would like to say "chestnuts," but answered: "So you belong to the moth-persecuted multitude of housekeepers? Well, for articles to be packed away in boxes or drawers, there are several things I can recommend. Some people prefer one remedy, some another. You will find some families putting their faith and their winter clothes in snuff or tobacco; others favour red pepper; but for many years I have used camphor, and consider that the best of anything. There is nothing disagreeable about it, and moths don't seek it as a regular diet; in fact, will never come where there is the camphor odour."

"Doesn't it evaporate too quickly?"

"No. Put in good sized pieces, and there is no danger from that source. A piece as large as your fist in six months or a year will be the size of a hickory nut, and the odour will penetrate every part of the box or drawer where the clothing is packed.

"Cedar chips are also a preventive," he continued. "Sprinkle them in among goods packed away, and you will have no moths. But they are not very easily obtained. Sometimes they can be found at a cigar-box factory, but there are not enough to make their use very general.

"The best way of all," he added, "is to have a large cedar chest and pack everything in that. But such chests are expensive, and common mortals must content themselves with other methods."

"Can moths be kept out of things that are in everyday use, like carpets, furniture, curtains, &c.?"

"A good housekeeper should never be troubled with moths in a carpet, for if it is swept thoroughly, especially the edges and corners, moths will not make it their abiding place. Newspapers laid under a carpet are said to be an effective aid in driving away these troublesome pests, but hard sweepings are more reliable. If a room is to be shut up for any length of time, something should be sprinkled over the floor.

"Portières and all curtains must have frequent shakings, or the moth millers will be sure to lodge in their folds. The great object is to keep them out of a house, for when they once locate and take up a claim they have the 'squatter's right,' and only force can drive them out."

"But how are the unfortunates who already have them in their houses to get rid of them?"

"For such cases I know of nothing better than some of the moth powders. The other things I have mentioned are preventives against moths, but these powders kill the moths themselves."

"Are they poisonous?"

"No. They are perfectly harmless. The moths don't eat the powder, but are suffocated by it. The powders are made from a tree that grows in Persia, and will kill anything that hasn't lungs. I sprinkle it plentifully around a room where there are moths, shut up the room for a while, and what moth-heaven gains we lose. The powders are good to put under carpets, and if a house is to be closed, should be liberally used in every room. A carbolic acid dilution is also very good for anything that can be dampened without injury."

Home-Nursing is the title of a useful little manual written by E. Margery Homersham, and published by the National Health Society, 44, Berners-street, London, W. It deals in a simple manner with the details involved in the home-treatment of the sick, and should prove a useful text-book for classes of domestic economy and for similar educational aims.

The London Rambler and Footpath Guide, by Howard Evans (Vickers, 317, Strand, W.C.), is a series of articles reprinted from the *Echo*. It contains, in handy compass, full directions for rambles in the picturesque environs of London and district. Armed with this pamphlet, a pedestrian will be enabled to visit many charming nooks and glades, mostly unknown to Londoners themselves, but well worthy the better acquaintance of those who desire fresh air and enjoyment, combined with healthful exercise.

Public Health

"Health is the first Wealth."—*Emerson.*

A NEW RESULT OF SEWAGE POISONING.

Dr. G. Johnson thus alludes in a medical contemporary to what is apparently a somewhat unusual result of sewer-gas poisoning. He says that, in addition to other forms of disease, the result of drain poisoning, I have met with a number of cases of *Albuminuria*. A case of typhoid or diphtheria in a house would, as a matter of course, excite attention to the drainage and to the water and milk supply. I am anxious to show that, in the absence of other probable exciting causes of albuminuria, the possibility of sewer poisoning should be constantly borne in mind. Case. Jan. 3, 1887, L. H., æt. 40, had been ailing, on and off, since August, 1886, but he had been worse during the last month. There had been soreness of the throat and neck and occasional rigour and temperature of 102°. A week before my visit the urine had been tested and been found highly albuminous. It was now turbid with urates, s. g. 1030: contained seven grammes per litre of albumen, and when cleared by warmth many small hyaline casts, with some epithelial and leucocyte casts, were seen. The urine was scanty, the pulse full and throbbing; no œdema. The patient was of temperate habits, he had not been exposed to cold, and in the absence of other apparent existing cause, I expressed my conviction that drain poisoning had been the cause of the sore throat, occasional rigours, and albuminuria.

On subsequent inquiry, it had been found that sewer gases had been escaping into his house from two untrapped waste pipes, one connected with the washing basin in a lavatory, the other with a bath, both going direct into the drain. At the time of my visit the patient was staying at the house of a relative, and he remained there until he recovered. He was treated in the usual way by rest in bed, milk diet, warm baths, and purgatives. In about a week the albumen began to decrease; in three weeks it had entirely disappeared, and it has not recurred. I saw him in January of the present year for another complaint, and on this occasion the urine was quite normal.

It is highly probable that if the cause of this man's illness had not been discovered and removed, continued exposure to the sewer poison would have resulted in an incurable disorganization of the kidneys, as it has done in several cases that have come under my observation. [After giving several cases in detail, the writer concludes:] In connection with this subject, it is not without interest to remark that amongst numerous diseases which may result from defective drainage and consequent sewage poisoning, diphtheria is, in a very large proportion of cases, associated with albuminuria, a fact that Dr. Wade was the first to make known. The history of such cases as have been here briefly recorded, serves to illustrate a principle which cannot be too much insisted upon, namely, that the treatment of symptoms by drugs form but a small part of the art of healing, and that one of the main objects of rational medicine is to trace disease to its cause.

What a melancholy exhibition of unscientific impotence is the attempt to arrest by opiates and other astringents a diarrhœa, the result of perpetually inhaling a septic drain poison. It can scarcely be doubted the diarrhœa and the albuminuria having such an origin are the result of a physiological effort by the bowel and the kidney to eject the poison and its noxious products from the system; and it is obvious that an essential condition of successful treatment of such cases is the discovery and removal, or avoidance, of the exciting cause of the symptoms.

Semolina in Diabetes.—Dr. W. Stanley Armitage says he has found semolina a useful food in cases of diabetes; quantities can be eaten without sugar being detected.

A Considerate Messenger.—A doctor, on visiting a patient one day, was greatly annoyed at hearing he had been sent for during the night, but that the messenger could not succeed in making him hear. He asked if he might question her, and after much cross-examination, elicited that she had only given one soft tap with the knocker, and a gentle pull at the bell. "But, my good woman," exclaimed the irate practitioner, "why did you not knock and ring loudly, until I answered you?" "Sure, sir, I was afraid of disturbing ye," was the rejoinder. We wish they'd send such messengers to us occasionally!

Magazines for July. — *The Century Magazine* for July contains a highly instructive paper on "Dreams, Nightmares, and Somnambulism," and another on "Disease Germs"; both likely to interest our readers; while Mr. Kennan's Siberian travels continue to present striking pictures of Russian and Tartar life. A most exciting account is also given of the career of the confederate war vessel "Albemarle." In *Harper's Magazine* Mr. Rider Haggard begins a new story "Maiwa's Revenge." Other papers worth reading are "The Great American Desert," and "A Midsummer Trip to the West Indies." *Belgravia* presents a very full programme of capital fiction for the month, "The Last Ten Thousand" being in its way a very touching romance. The *Gentleman's Magazine* contains interesting papers on "Charles Lamb's Letters," and on "William Barnes, the Dorset Poet." *Life Lore* is a new monthly magazine of Natural History, edited by Mr. W. Mawer, and published at 4, Essex-street, Strand. It is beautifully printed and well illustrated. *The Season*, as the ladies' magazine of fashions, presents its usual attractiveness to the fair sex. Messrs. Cassell & Co.'s serials, *Countries of the World*, and the *Illustrated History of England*, are again to be commended for their educative and instructive nature.

Opium Smoking in London.—Several thousand Chinese and Malays visit the port of London every year. It is therefore not surprising to learn that the practice of opium smoking in the East-end is increasing. When Charles Dickens called attention to the subject in "Edwin Drood," inquisitive persons found some difficulty in obtaining ocular evidence that the novelist had not drawn upon his imagination for his facts. Now there are seven opium dens within a short distance of one another, in which every night in the week numbers of Chinese may be seen both smoking and gambling. Some of these miserable creatures aver that they first contracted the pernicious habit in London; and it is also a melancholy fact that in the same places of resort may be found many English women of the lowest class. It is not surprising that the attention of medical men, as well as of philanthropists, has been directed to the increasing prevalence of the vice in the neighbourhood of the docks, and that medical journals have suggested that the State cannot afford altogether to ignore this state of things.

Popular Science Papers

"Blessings on Science! When the Earth seemed old,
When Faith grew doting, and our reason cold,
'Twas she discovered that the world was young,
And taught a language to its lisping tongue."
—*Charles Mackay.*

EMBALMING AT THE PRESENT DAY.

Embalming at the present day is, in England, an exceptional process, and when we are called upon to perform it here, it is, in ninety-nine cases out of the hundred, for some one foreign to our country. I have embalmed fifty bodies, but only in two or three instances the bodies of English people, and in these exceptional instances the deceased, although they were born and died in England, had lived the greater part of their lives abroad, and were embalmed in order to be conveyed to friends at a distance, who wished to bury them. In the United States of America the embalming process is carried out to a great extent, and I believe the number of persons embalmed in that country increases every year. Hence, Americans who are residents here often ask to have friends or relations embalmed.

The reasons assigned for embalmment are numerous—some are valid, some, perhaps, fanciful. In most cases in which I have been consulted, the object of the embalming has been to retain the body free of putrefactive change long enough for it to be conveyed from the place where it died to some distant place where it is finally to be entombed. This object is in every sense reasonable. In other examples the embalming has been sought for in order that the relatives might retain the dead body as long as they could with the face exposed to view. For such purpose coffins of a special kind have to be made, in the lids of which a pane of glass is placed. In England these receptacles for the dead are not often constructed; but in America they are specially constructed, and I learnt that one body which I embalmed in England was, on its arrival in America, transferred to the particular receptacle described, in which (with the face perfectly preserved) it is retained.

I offer no opinion as to the value of embalming, because the question involved in it is one entirely of feeling. I may only add that the process is harmless to everybody; it involves, I mean, no breach of sanitary rules if it be properly conducted.

Once I knew the embalming requested from the last direct wish of the deceased, who feared unless this precaution were taken she might be buried alive. It was not necessary, of course, to embalm to insure against that terrible calamity, but the desire had to be carried out. The lady was afterwards buried in the usual way.

Embalming is sometimes performed on distinguished persons as a supposed mark of distinction. For ages upon ages this intention has been acted upon, and has become, in a certain sense, a fashion. Probably, if the distinguished personages who were embalmed with so much care in ancient Egypt could have foreseen to what base uses their preserved remains would in the course of time come—that they would stand, in fact, as the shows of another civilization—they would have been anxious to have been consigned at once to the earth after their deaths, or even to have been resolved on the pyre. Yet to this intention of embalming there are two sides. To the historian these remains of what once were mighty men possess an interest of no mean character, and he who would wish to trace the correct line of the Pharaohs, regrets, I doubt not, sincerely that the embalmers of these royal personages were not more successful in their art. It must be admitted, however, that this object of embalming has been abused. To embalm a distinguished man that he may lie for long periods in the embalmer's room to be stared at by multitudes of people as a pseudo-scientific sight, is a degradation of scientific labour.

Occasionally, the art of embalming may prove of service for the benefit of the public—that is to say, for the promotion of public justice. It may be necessary to embalm a body in order that it may afterwards be identified; or it may even be necessary to preserve the whole or parts of a dead body in order that it, or they, may be submitted to analysis or other mode of investigation.

There is yet another object for the public good in which the skill of the embalmer is useful. There are circumstances when it is not possible to bury a body immediately, and where it is necessary to keep it in such a state that it will undergo no decomposition, nor be calculated to be injurious to the living who are near it. Here it is of moment to know how temporarily to check the decomposition and prevent the diffusion of poisonous gases from that source.

I have dwelt for a few moments on these details of embalming, without minutely arguing any point that may be raised upon them, in order to show that the art is one that is demanded on various grounds, and is not likely to fall out of demand. As this is the undoubted fact, I think it is right for medical men to retain and even to cultivate the most perfect knowledge of the art. If we do not scientifically carry it out, other men, mere empirics, who know nothing either of chemistry or of anatomy, will attempt to do so, the public will be defrauded, and an art, which really rests on the purest basis of science, will be brought into unmerited disrepute.

There is nothing so difficult in the process, but that any practitioner can perform it as easily as he can perform a post-mortem examination; and when he has before him the simple rules I shall lay down in my next essay, he will find the task easy. One quality only does it call for, and that quality is patience. It is true that in these days we are rapid to a marvel when we compare ourselves with our old friends the Egyptian embalmers, for we require hours where they required days. But still, to do the thing well, some considerable patience is demanded even now, notwithstanding all our modern knowledge and modern appliances.—*Dr. Richardson in the "Asclepiad."*

The Professional Inventor.—Under the heading of "A Hint to Inventors," the facetious editor of "Texas Siftings" gives the following dialogue, which is, in a measure, characteristic of a class of inventors:—First Yankee; "What puts you in such a good humour this morning?" Second Yankee: "I've just got my patent for my new patent ink eraser. I wouldn't take 50,000 dols. for it." "Did you get a patent last year for inventing an indelible ink?" "I did, and I sold it for 30,000 dols., and now I've invented an eraser that will even remove writing done with my own indelible ink." "What are you going at next?" I'm going to invent another indelible ink that can't be erased with my new ink eraser. I tell you, there is money in this patent business if you go at it right."

Jottings from the Journals

"Th' ingredients of health and long life are
Great temperance, open air,
Easy labour, little care."—*Sir Philip Sydney.*

The Yellow-Fever Germ.—Something more than a year ago it was positively announced that a Mexican physician had discovered the yellow-fever germ; that it could be cultivated; and that, by inoculation with it, human beings could be rendered unsusceptible to the disease. Subsequently, a similar report was received from Brazil, and together they caused wide-spread discussion both in this country and in Europe, not only in the medical journals, but in the popular press. So important was this matter considered in Washington, that the President determined to have a special inquiry made in regard to it, and Dr. George M. Sternberg, of John Hopkins University, a man of large practical experience with fevers, was appointed to make it. He visited Mexico and Brazil; and, although he has not yet submitted his official report, he obtained permission to prepare and read in advance of it a paper on the subject, setting forth in a general way the results of his inquiry. This paper was read before the College of Physicians, of Philadelphia. The amount of time accorded Dr. Sternberg not only prevented the investigation from being as thorough as was desirable, but it made it necessary for him to visit Brazil in June, which is in the winter season south of the equator, and Mexico in September, when there were comparatively few cases of yellow fever. His opportunities for observation, therefore, were not as good as could be wished. But his inquiries did go far enough to justify him in saying that he found really nothing to sustain the sanguine expectations of the Mexican and Brazilian scientists. Such examination as he had been able to make in Havana, Vera Cruz, Rio Janeiro, and other Brazilian ports which had yellow fever, had not discovered any such micro-organisms as these gentlemen say they have found. These investigations were not confined to the blood alone, but to the alimentary canal and other parts of the digestive organs, and were extended also to the muscles and other tissues. In order to show the exact degree of success in preventing yellow fever by inoculation, Dr. Sternberg said that out of 44 inoculated in Rio Janeiro, 22, or 50 per cent, had been seized with the disease; and of these 9, or 40 per cent, had died. "This is important," observed Dr. Sternberg, "when taken in connection with the usual rate of mortality, which is 30 per cent, as showing that, so far from being a protection, inoculation increased the effects." Dr. Sternberg said that in his official report to the Government he had laid stress upon the fact that certain experiments which ought to have been carried out were rendered abortive by his having to return to Washington in accordance with his official orders. Under these circumstances, he had thought it best to advise that the investigation be continued by means of autopsies, and with the blood taken from the living patient. In accordance with this recommendation, the President had directed him to continue his inquiry. So far as a practical analysis of the blood of the subjects referred to by the Mexican and Brazilian doctors was concerned, he had failed to find any such condition as they had described. At the same time, further experiments ought to be made, although he had found no evidence to prove that the Mexican and Brazilian doctors had solved the problem of preventing yellow fever by their inoculation and microbe theories.—*Science.*

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Our Letter-Box

"Conference [maketh] a ready man. —*Bacon.*

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GALVANISM *v.* INDIGESTION.
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GALVANISM *v.* LOSS OF NERVE POWER.
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I have much pleasure in frequently recommending your appliances, having witnessed their effectiveness in so many instances in my own family.—Yours faithfully, H. HOPE.
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GALVANISM *v.* NERVOUS DEPRESSION.
Balsall-heath, Birmingham, June 24, 1888.
Dear Sir,—You will remember my purchasing a Combined Band a short time since, and you will be pleased to hear that I have derived more good from your treatment than anything I have ever tried before, and I feel myself to be gradually getting stronger and more buoyant in spirits. I have found the Bands not at all uncomfortable to wear, and they do not inconvenience me in any way.—With many thanks, yours truly, J. H. PHELPS.
Mr. J. L. Pulvermacher, 194, Regent-street, W.

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Crosby House, Carlisle, June 23rd, 1888.
Dear Sir,—I have much pleasure in saying that I have derived great benefit from your Galvanic Belt, and have written concerning another lady to whom I recommended your treatment.—Yours truly, E. COOKSON.
Mr. J. L. Pulvermacher, 194, Regent-street, W.

GALVANISM *v.* NERVOUS EXHAUSTION.
88, Summer-road, Edgbaston, Birmingham, June 22, 1888.
Dear Sir,—It is now ten years since I gave you a testimonial as to the efficacy of your electric appliances for the cure of nervous exhaustion. I am pleased to add that I am still enjoying most excellent health, and wish now to consult you on behalf of my wife.—Yours faithfully, A. WIGGIN.
J. L. Pulvermacher, Esq., 194, Regent-street, W.

GALVANISM *v.* WRITER'S CRAMP and PAIN in the WRIST.
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GALVANISM *v.* LOCAL WEAKNESS.
Cambuslang, Lanarkshire, N.B., 12th June, 1888.
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—Yours gratefully, J. NOAH.
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GALVANISM *v.* SLEEPLESSNESS and NERVOUS IRRITATION.
Brentwood, Essex, June 11, 1888.
Dear Sir,—I am thankful to tell you that your Galvanic Combined Band has quite cured me of a nervous restlessness and sleeplessness from which I had suffered for many years. My health also is much improved in every way; and with much gratitude, yours sincerely, S. BARKER.
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2. All letters must be legibly addressed to "The Editor of HEALTH, 2, Paternoster-square, London, E.C.," *and to no other address.*
3. Questions to which answers are desired by post, are so replied to solely at the Editor's discretion. If no answer is sent by post, the query will be replied to in the "Letter-Box" columns of HEALTH. A stamped addressed envelope must accompany all queries to which a private reply is desired.
4. Addresses of physicians and surgeons will, as heretofore, be forwarded FREE to Correspondents on their enclosing a stamped addressed envelope for reply.
5. Correspondents are requested to write on one side of the paper only, and to make their inquiries as brief as may be consistent with clearness.
6. From the necessity of sending HEALTH to press early in the week, no Correspondent can be replied to in the "Letter-Box" columns in the same week in which the inquiry is received. Replies crushed out of any issue will be found in the succeeding number.
7. No Post Cards must be used in sending queries. Violation of this rule deprives the sender of the privilege of a reply.

QUERIES AND ANSWERS.

REPLIES: GENERAL, SANITARY, AND MEDICAL.

[Readers of HEALTH will kindly note that when back numbers the journal are desired, the letters containing such requests and stamps for the numbers should be addressed to the PUBLISHER of HEALTH, 2, Paternoster-square, London, E.C., and *not to the Editor.*]

MAGGIE.—Paint the gland with tincture of iodine until the skin becomes tender, and then cease the painting. Internally, take cod liver oil (to which a little syrup of the iodide of iron has been added by your druggist) after meals, thrice daily. A holiday by the sea (*e.g.*, at North Berwick or Dunbar), with sea bathing, would also be likely to do you good.

LANCER.—No; there is nothing fattening in the diet you name. You should read the series of papers on "How to Get Thin or Fat," published in HEALTH, and to be had from the Publisher. Judicious exercise and bathing, with friction thereafter, will strengthen your muscles.

E. A. D.—Note and follow the directions fully given to "Hereward" in HEALTH, No. 272, for the cure of constipation. If not quite cured by attention to these directions, write again.

VERITAS.—1. Take the boy to a good physician, and let him be thoroughly examined. This is your only wise course. 2. The case you describe in the female child appears to us to resemble one of epilepsy. A physician alone can advise you in both cases, after due examination of the children.

H. H. B.—Give the following hair-lotion a fair trial; it acts successfully in cases such as that you describe: Aromatic acetic acid, one ounce; vinegar of cantharides, two ounces; spirits of rosemary, three drachms; glycerine, one ounce; rose water, to make up eight ounces. Mix. Label: "The Hair Wash: rub a little into the roots each night, either pure or diluted with water."

AMBULANCE.—You should write to the secretary of the "St. Andrew Ambulance Association," Glasgow, for the particulars you desire. A class should be easily started in your locality by a local medical man.

BROMIDE OF POTASH.—You might certainly with advantage give a teaspoonful of Syrup of the Hypophosphites in a wineglass of water (twice or thrice daily, after meals) in such a case. The bromide should not be given while the tonic is being taken.

J. GRAHAM.—We cannot undertake any such duty as that you propose.

PUZZLED.—If the lotion contains lead, you may test it by adding a solution of iodide of potass, when the yellow iodide of lead will be thrown down. You should certainly not use any lotion which contains lead. Though the effects may be absent for a time, you should bear in mind lead is a cumulative poison.

JOSHUA R.—We should not advise tricycling until you are better. Your safest course is to see a surgeon, and to obtain his opinion regarding the advisability of adopting treatment for the other leg.

PEMBROKE.—You should take the following mixture for a week or so at a time, and then allow an interval of a week before resuming. This treatment to be carried out for some months at least: Iodide of potass, two drachms; infusion of calumba, six ounces. A dessertspoonful to be taken thrice daily. The mouth may be gargled with chlorate of potash (or a chlorate of potash tabloid—Burroughs, Wellcome & Co.'s—be allowed to dissolve in the mouth) when symptoms appear there.

MAPLE.—Such cases as yours are eminently curable. Read the pamphlet "A Lecture to Young Men" (post free, 1s. 1d., from Mr. Renshaw, 356, Strand, London, W.C.) and follow out the directions therein given regarding tonics. If not bettered, write again.

A. FAIRHAVEN.—Wash the parts morning and night with Bayley's Soap, and try the effect of injecting, twice or thrice daily, tepid water, which has been coloured of a light claret hue by the addition to it of a few crystals of permanganate of potash. See that no constipation exists, above all; if so, take twenty drops Cascara Cordial, or a Cascara Tabloid, in water, an hour before breakfast.

FRANK DAY.—Read Dr. Wilson's "Manual of Health Science," published by Longmans & Co., price 2s. 6d.

P. S.—Use for your hair the following lotion: Carbolic acid, half a drachm; tincture of nux vomica, two drachms; tincture of cantharides, B.P., two drachms; tincture of cinchona, one ounce; eau de Cologne and cocoa-nut oil, of each a sufficiency to make up four ounces. Mix. To be well rubbed into the roots of the hair with a soft sponge once or twice a day.

ALEXIS. — Dahl's Cakes (advertised in our pages) should be regularly taken by you as a remedy.

BETA.—Bayley's Eau de Cologne is the best. Use also the soap made by this firm.

GEORGE REID.—Our advice to you is to read and study carefully what is said about cases like yours in the pumphlet, "A Lecture to Young Men" (post free, for 1s. 1d., from Mr. Renshaw, 356, Strand, London, W.C.); you will find full advice therein given you.

MIXED.—Press out the spots in the skin; take a Turkish Bath occasionally, and hot baths at other times, and to ensure skin-action, use Bayley's Soap; avoid fatty foods and salt foods; and take plenty of outdoor exercise.

A. BURTON.—The trusses of the Medical Battery Company would suit the case you name. They are light and comfortable to wear, but must, of course, be properly fitted to the case. A personal visit should be made to 52, New Oxford-street, W.

A. AITKEN.—Use Dr. Pierre's Eau Dentifrice as a mouth wash regularly after meals, and his Tooth Powder morning and night. Visit a dentist and have the stumps removed.

C. R.—Try bathing the joints with hot salt and water at night, and thereafter rubbing St. Jacobs Oil into them as a liniment.

ROSS.—Wear a suspensory bandage until you are cured, and avoid exertion, standing about or walking as much as possible; also bathe the part affected night and morning with a lotion made by adding a little Hazeline to tepid water.

A MINER.—Look to the purity of the water you drink in the first place, and if you suspect its quality at all, filter it through one of Messrs. Howie's Filters (Hurlford, Kilmarnock, N.B.), and thus ensure its purity. Avoid excess of vegetable foods for a time. When your symptoms are specially troublesome take ten or fifteen drops of Collis Browne's Chlorodyne in a little water. Rest after meals regularly: and if not bettered, write again. See also to the drainage of your house.

BANK BOY.—1. Use "Sanitas" Soap for the skin till you are well, and add a little "Sanitas" Fluid to your bath each day. See that all your bedclothes and bodyclothes are steeped in water to which "Sanitas" Fluid has been added in sufficient quantity before they are allowed to leave your house. 2. No danger of such an event. 3. Henderson's Perfect Food Biscuits. 4. Pitkeathly Water with Lithia.

VERY PALE.—Substitute for the hair-lotion you have been using that ordered to "H. H. B." in the present number. It is very probable your state of health has to do with your hair-weakness. Try fifteen drops Fer Bravais after meals in water, thrice daily, and write again if not cured.

TOMATO.—The question of tomatoes causing cancer was debated in our pages some years ago. It is an utterly baseless idea. There is no more connection between tomatoes and cancer than between tomatoes and the planet Jupiter. Ask your friend for proof of his assertion. People are always ready to make absurd statements: they are not so ready with proofs.

HOPEFUL W.—Continue to take plenty of outdoor exercise, and limit your flesh meat, taking for a time white boiled fish instead. After your meals take the Syrup of the Hypophosphites as ordered to "Bromide of Potash" in the present number, and let us hear how this treatment answers. You would also be the better for taking Dahl's Cakes (see advt. in our pages) to breakfast and tea for a time.

OMEGA.—1. No: no effect such as you indicate. 2. There is no difference in the nutritious qualities of the barleys. 3. We do not know what you mean by "sub-acid," unless you mean fruits well ripened in which the acid is more or less replaced by sugar. We advise you to try the ripe fruits.

SURVEYOR.—There is no remedy save abstinence from alcohol and care in diet. Rest after meals so as to avoid indigestion; and in cold weather take Cod Liver Oil (Scott's Emulsion) after your meals regularly.

A. PRINCE.—The diet is a good one, but you should take Grant's Scotch Oat Flour in addition to the other items. Take this Oat Flour, twice daily, as a substitute for the porridge.

G. ELDER.—1. Give Bayley's Cure for Piles a fair trial (17, Cockspur-street, Pall-Mall, London, S.W.); it is an effective remedy. 2. Why not try the Coca Cigarettes?

GIP.—We have not heard of the invention. Do you mean Edison's phonograph?

NASTURTIUM.—1. The plant is *Convallaria*, and it has been used as a remedy in heart-diseases. 2. Foxglove. 3. Prepared from an American plant.

BILLEE TAYLOR.—Give no starchy foods at all—*e.g.*, bread, potatoes, rice, &c. — but try Mellin's Food, which is non-farinaceous.

ALFRED CARR.—See advice given to "Daisy S. S." above. In addition, use Scott's Midlothian Oat Flour, with Dahl's Cakes, regularly, and note effect on your ailment. Write again if not cured.

PERSHOREUS.—We prefer the tabloids of dioxide of manganese, made by Burroughs, Wellcome & Co. You may obtain them through any druggist. Take one or two twice daily after meals.

ELIGIBLE.—You are over the age for such an appointment. The limit is 21.

FRANK L.—Strathpeffer would be the most suitable place for you.

B. E. F.—1. See article on the "Cold Bath" in the present number. 2. Bayley's "Pommade Divine" (17, Cockspur-street, Pall-mall, S.W.) should be used by you as an external application.

FIGARO.—1. The Xylonite Truss of the Medical Battery Co., 52, Oxford-street, W., should be tried by you. 2. The American doctor is a quack.

GILBERT RAE.—Consult a respectable solicitor. The man is a thorough quack, but it is doubtful if you can recover your money from him.

HIS FRIEND'S ADVICE SAVED HIM.

AT 23, Burleigh-street, Holderness-road, Hull, lives Mr. George Woodhead, the subject of this sketch. He is a shipbuilder by trade, and for more than forty years has been a resident of that city. Up to 1884 he had been employed for twenty-six years by the Earle Shipbuilding Company. Four years ago the state of his health compelled him to "knock off" work, and although he received temporary benefit from the doctors he consulted, he gradually grew worse, and was finally compelled to take to his bed. His medical man informed him that his trouble was due to stone in the kidney, and that he would have to go to the hospital and have it cut out, as that was the only way of being cured. Upon being asked if he went to the hospital, Mr. Woodhead replied, "No, sir. Being well advanced in years, I doubted if I could survive the shock of so serious an operation, so I preferred to die a natural death."

"Then you never expected to get well?"

"Indeed, I did not. I was so near gone that my pulse could not be felt at the wrist, and I made all arrangements, so far as possible, for my death, even to selecting the pall-bearers."

"But how about your recovery?"

"Well, while lying in an apparently hopeless condition, a friend brought me a bottle of Warner's SAFE Cure, and as my doctors said they could do nothing for me, I stopped all their medicines, and went to taking Warner's SAFE Cure. It seemed to suit my case exactly, and I carefully and regularly continued its use. My strength improved, the hemorrhages ceased, the pains in my back vanished, and I was soon able to get up and out on the street, much to the surprise of my friends and neighbours. I took twenty-seven bottles of the SAFE Cure in all, and am to-day in a good state of health. I shall be pleased to communicate with anyone who may wish to know any further particulars about my case."

GORGO.—1. By all means try cycling—in moderation, however—and you should go more into society and cultivate cheerfulness thereby. You are only in a moody, melancholy state of mind, due to your retired habits. As a tonic try that recommended to "Bromide of Potash" in the present number. 2. All indexes to the volumes of HEALTH are to be had from the publisher, post free for 2½d. each.

SCURFY-PATE.—1. Wash the head once a week with Bayley's Spermaceti Soap and tepid water; keep the hair short; avoid all hard brushes and small combs; and rub a little glycerine of borax into the hair roots each morning. Give up using your present hair-application. 2. Apply a little hazeline night and morning, either pure or diluted with water, to the parts, and avoid coffee. 3. Try Dahl's Cakes (advertised in our pages) and take a Cascara Tabloid or two (Messrs. Burroughs, Wellcome & Co.'s) when you are troubled. Whenever you can procure it, and whenever you are at home, take Scott's Midlothian Oat Flour in place of tea and coffee night and morning, and you will find this diet cure you. For the rest, take plenty of fruits and vegetables.

JAMES AND M.—You will find the matter you refer to fully replied to in the answer to "Elsie" in last week's HEALTH.

IGNORAMUS AWAITING.—There is no absolute need for any further remarks on your case, and we think you may rest satisfied. There were one or two particulars which it would be desirable to have known, so as to have made "assurance doubly sure." If any further information is desired, we shall be glad to be of service.

ENOTS.—You should have your ears syringed carefully. Moisten the wax over night with a few drops of almond or olive oil, and syringe in the morning. It is probable you only suffer from wax-accumulation. Cold would certainly favour the slight affection.

C. BUCKLEY.—1. You take far too much tea and coffee. Give up both beverages and substitute Scott's Midlothian Oat Flour therefor, at breakfast and tea-time This diet will correct your ailment. 2. Mellin's food should alone be given to the child.

P. FULLAGAR.—Apply to Mr. Harness, 52, New Oxford-street, London, W., for information.

QUERIST.—1. You are merely in error in stating the dimensions; the proper measurement is about one three-thousandth of an inch—that is in diameter. 2. Drink Pitkeathley Water night and morning regularly, and avoid all alcohol for a time.

OLD BOY.—1. See advice given to "Querist" above, regarding Pitkeathley Water. 2. The papers have not been republished.

H. CLIFFE.—Your best course is to adopt careful gymnastic exercises adapted to develop your chest, and also to take internally, after food, a dessertspoonful of Scott's Pure Cod Oil Emulsion. The wearing of braces specially made to counteract stooping habits should also assist you.

DEPRESSED.—Try the plan of taking fifteen grains citrate of potash in half a tumbler of water, between your meals, twice daily; or adopt the plan of drinking a tumbler of hot water between meals and at bedtime. If these means fail, try Vichy Water. If the alcohol is to be continued, drink it well diluted with Pitkeathley Water. There is no need to alter your habits in any other respect.

DAISY S. S.—Continue the use of the battery you have for a time at least. You should not feel nervous or depressed at the symptom you name. It is perfectly natural to healthy persons. If you feel low in tone, take the Syrup of the Hypophosphites recommended to "Bromide of Potash" in the present number, and try a cold or tepid sponge bath each morning.

E. FELLING.—1. Give the Cellular Clothing Company's undergarments a fair trial. See notice of them in a late number of HEALTH. For cycling they are eminently suitable. 2. For lunch, try Henderson's "Wheatena Biscuits." They are bone-forming and nutritious.

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